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| 10/565,121 | 01/19/2006 | Kazuhiro Abe | 062015 | 6145 |
| 38834 7590 01/29/2010 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036 | | | | |
| EXAMINER | | | | |
| QIAN, YUN | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

Office Action Summary

Application No.

10/565,121

Applicant(s)

ABE ET AL.

Examiner

YUN QIAN

Art Unit

1793

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 20-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of Claims

Claims 1-9 and 20-24 remain for examination. Claims 1-9 and 20-24 are amended. Claims 10-19, 27 and 28 are canceled. Claims 25, 26 and 29 are withdrawn.

Previous Grounds of Rejection

In the light of the amendment, the objection with respect to claims 1 and 10 has been withdrawn.

In the light of the amendments, the rejection under 35 U.S.C. 102(b) as being anticipated by Domoto et al. (JP 09-207289) with respect to claims 8 and 19-23 has been withdrawn, as claim 8 has been amended to further limit the fluorocarbon to copolymer of tetrafluoroethylene-FEP or tetrafluoroethylene-PFA. Claim 19 has been cancelled.

In the light of the amendments, the rejection under 35 U.S.C. 103(a) as being unpatentable over Domoto et al. in view of Enomoto et al. (JP 2002-096434) with respect to claims 1-7, 9-14 and 24 has been withdrawn, as claim 1 and 9 has been amended to further limit the fluorocarbon to copolymer of tetrafluoroethylene-FEP or tetrafluoroethylene-PFA. Among them, claims 10-18 has been cancelled.

However, upon further consideration, a new ground(s) of rejection is made as follows.

New Grounds of Rejection

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-9 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Domoto et al. (JP 09-207289) in view of Enomoto et al. (JP 2002-096434).

Regarding claims 1, 8-9 and 21-23, Domoto et al. discloses a film structural material containing (1) a silicone resin coated glass fibers (applicant's substrate), (2) coating with fluorine resin (applicant's 1st layer) on a substrate, (3) forming fluorine resin and glass beads layer from PTFE powder (applicant's 2nd layer), (4) coating with the fluorine resin and photocatalyst titanium oxide fine particles (applicant's 3rd layer) ([Abstract] and [Solution]). In addition to polytetrafluoroethylene (PTFE), copolymers such as tetrafluoroethylene-FEP, tetrafluoroethylene-PFA, etc. are also used to form the fluoro-resin (abstract, and [MEANS]/ [0013]).

The weight ratio of photocatalyst and fluororesin is in the preferably range of 3:7-5:5 ([MEANS]/ [0013]).

The word "comprising" transitioning from the preamble to the entire applicant's claims is open-ended. Therefore the Examiner interprets that the applicant's claims encompasses other components (i.e. glass beads) in addition to fluorocarbon resin layers and photocatalyst. See MPEP 2111.03.¹

Although Domoto et al. teaches the use of the fluorine resin selected from polytetrafluoroethylene (PTFE), copolymer of tetrafluoroethylene-hexafluoropropylene (FEP), and copolymer of tetrafluoroethylene-perfluoroalkylvinylether (PFA) ([MEANS]/[0013]), he does not specifically disclose exposing photocatalyst on

¹ "The transitional phrases "comprising", "consisting essentially of" and "consisting of" define the scope of a claim with respect to what unrecited additional components or steps, if any, are excluded from the scope of the claim. The transitional term "comprising", which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not exclude additional, unrecited elements or method steps." *In Gillette Co. v. Energizer Holdings Inc.*, 405 F.3d 1367, 1371-73, 74 USPQ2d 1586, 1589-91 (Fed. Cir. 2005).

copolymer of tetrafluoroethylene-hexafluoropropylene as per applicant claims 1 and 8-9.

Enomoto et al. teaches a composition of a toxic gas treatment sheet comprising a 1st layer containing a PTFE and photocatalyst particles (TiO₂), and a 2nd layer containing PTFE and FEP (a melting point lower than PTFE) ([Abstract] and [Solution]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Domoto et al. and Enomoto et al. to obtain the invention as specified in the claims 1 and 8-9, motivated by the fact that the mechanical strength of resulting sheet is improved ([ABSTRACT] and [DETAILED DESCRIPTION])/ [0015]-[0016])

Since the combined reference (Domoto et al. and Enomoto et al.) teach the same film structural material as the recited claims, the physical properties, such as water repellent, peeled off rate and thermal weldability as per applicant claims 1, 8-9 and 21-23, would necessarily follow.

The final clause of claims 1, 8-9 and 21-23 are interpreted as intended use. Per MPEP 2111, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. Since the prior art structure is capable of performing the intended use, then it meets the claim.

Regarding claim 2, the substrate taught by Domoto et al. is fiber cloths which consist of glass fibers ([DETAILED DESCRIPTION])/ [0001]-[0002]).

Regarding claim 3, the photocatalysts taught by Domoto et al. are contained in the 2nd fluororesin layer as per applicant claim 3 (claim 9).

Regarding claims 4-6, although the combined references of Domoto et al. and Enomoto et al. does not specifically disclose the physical properties of the surface of the fluorocarbon resin layer, such as photooxidation and photoreduction abilities, contact angle of the surface, etc. as per applicant claims 4-6, since the prior art of records teach the same material as the recited claims, these physical properties of the material would necessarily follow.

Regarding claims 7 and 24, the 1st and 2nd layers of the toxic gas treatment sheet taught by Enomoto et al have a thickness at least 50 micrometers respectively. The references differ from Applicant's recitations of claims by not disclosing identical ranges. However, the reference discloses "overlapping" ranges, and overlapping ranges have been held to establish prima facie obviousness (MPEP 2144.05).

Regarding claim 20, the photocatalysts taught by Domoto et al. are contained in the 2nd fluororesin layer as per applicant claim 20 (claim 9).

Response to Arguments

With regards to the previous Grounds of Rejection

Applicants filed Remarks on October 20, 2009 is acknowledged.

In response to applicant's arguments that the references (Domoto et al. and Enomoto et al.) fail to show certain features of applicant's invention, it is noted that the features, upon which applicant relies (i.e., thermal weldability) does not limit the claim to

a particular structure, as the claim language (i.e. "photocatalyst sheet **can be** thermally welded.....if said welded part is peeled off at a rate") suggests or makes it optional.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, as discussed above, since the combined reference (Domoto et al. and Enomoto et al.) teach the same film structural materials as the recited claims, the physical properties, such as water repellent, peeled off rate and thermal weldability as per applicant claims, would necessarily follow.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUN QIAN whose telephone number is (571)270-5834. The examiner can normally be reached on Monday-Thursday, 10:00am -4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A. LORENZO/
Supervisory Patent Examiner, Art Unit 1793

/YUN QIAN/
Examiner, Art Unit 1793